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## OPC Offshore Waters Forecast Zone Changes 1800 UTC April 1, 2014

Updated 26 November 2013 – [Download PDF version of this web page](#)

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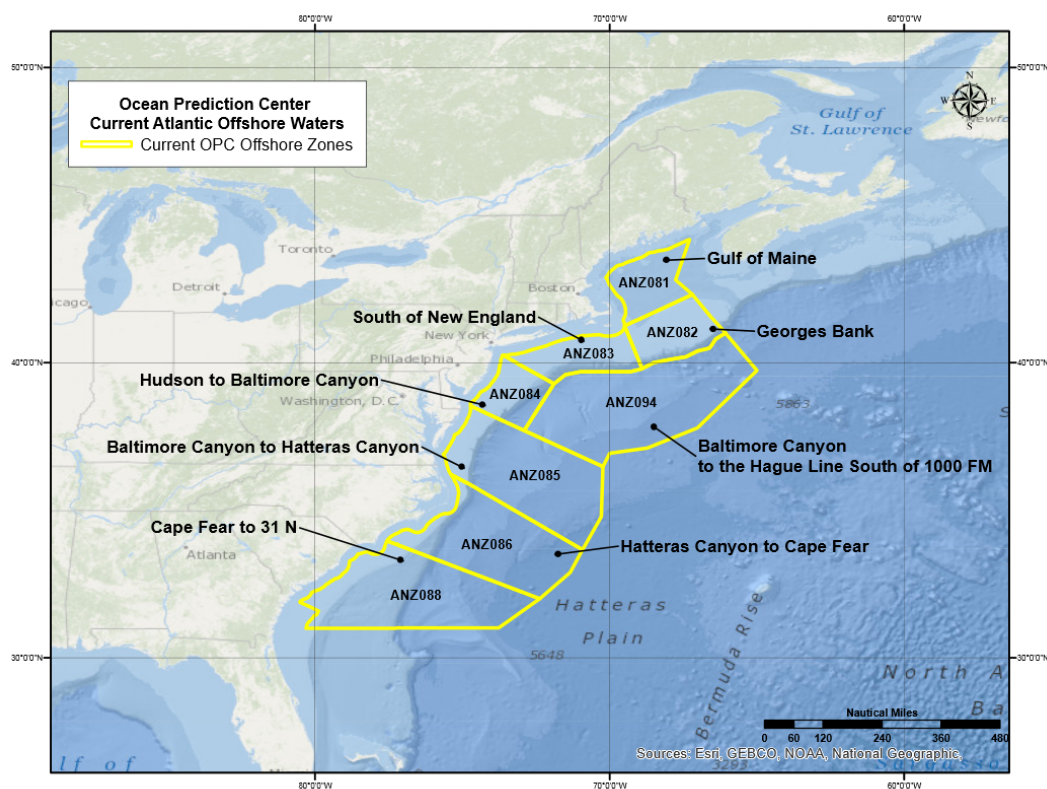
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### 1. Introduction

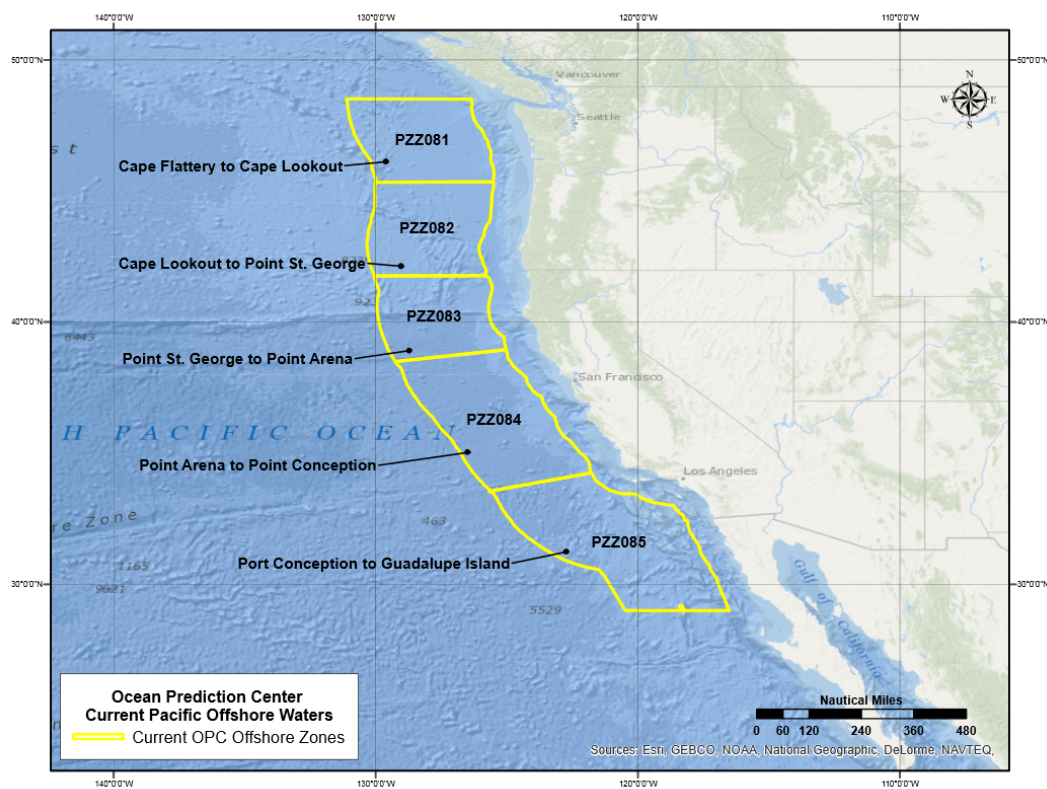
The Ocean Prediction Center (OPC) of the National Centers for Environmental Prediction (NCEP) produces the offshore waters forecasts for both the Atlantic Ocean (OFFNT1, OFFNT2) and the Pacific Ocean (OFFPZ5, OFFPZ6). Currently, OPC provides forecasts for 8 zones in the Atlantic and 5 zones in the Pacific ([Figure 1](#) and [Figure 2](#)). User feedback over the years has focused on the fact that the forecast zones are too large to provide detailed forecasts for their needs and also that the forecast zones are not always aligned with the various user areas of responsibilities or key bathymetric features. The new forecast zones address many of our users' concerns and are designed to meet their needs for clear, concise forecasts that are aligned with other NWS boundaries.

The current large forecast zones in the OPC offshore waters area can result in the appearance of over-warning of areas. When a marine or tropical cyclone warning is issued for any portion of the current large offshore waters zones, the entire zone is highlighted in the Watch Warning Advisory (WWA) map on the National Weather Service (NWS) website, [www.weather.gov](http://www.weather.gov). This has resulted in confusion on the part of our users as well as local NWS forecast offices. This issue was brought up at the December 2010 NOAA National Hurricane conference as Agenda Item 10-15. The much smaller new zones offers a solution to this by providing more specific areal delineation of warnings and less confusion for the user community and the NWS forecast offices.

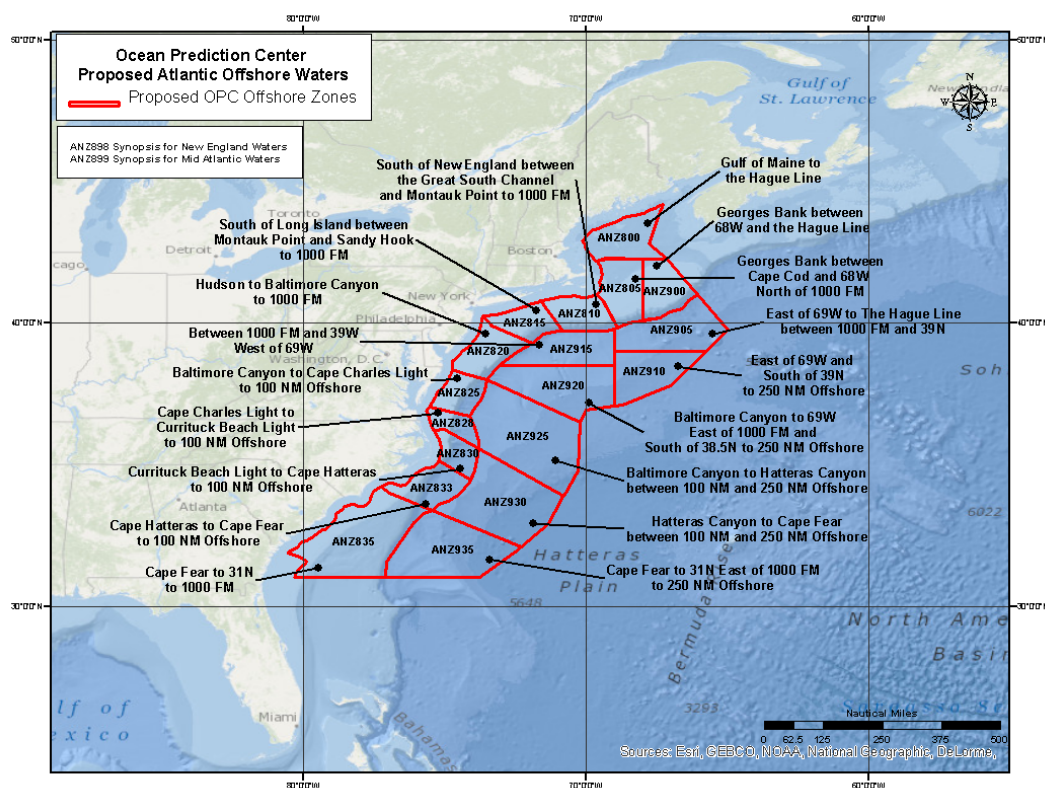
Feedback from various NWS customers and partners has been received and assimilated. The final zone changes will be implemented April 1, 2014 at 1800 UTC (200 PM EDT). See [official service change notice](#)



**Figure 1.** Existing Atlantic offshore waters zone configuration. Current configuration consists of eight (8) zones for the Atlantic offshore waters.

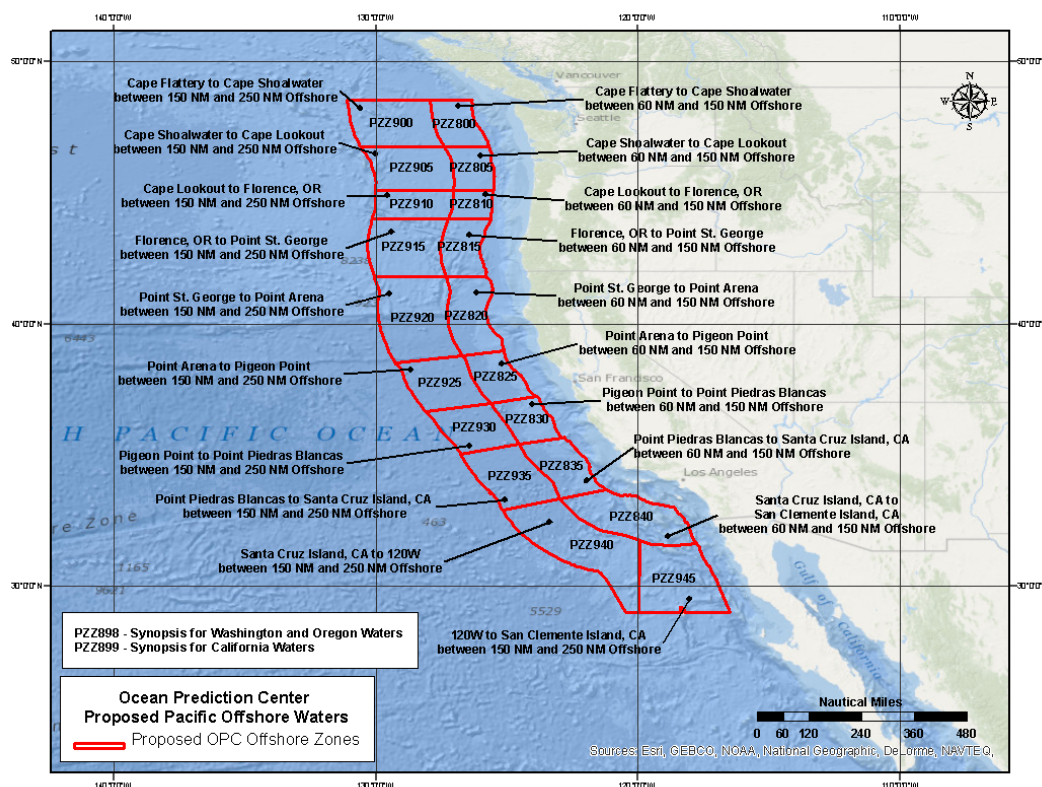


**Figure 2.** Existing Pacific offshore waters zone configuration. Current configuration consists of five (5) zones for the Pacific offshore waters.



**Figure 3.** Planned OPC Atlantic offshore waters zone configuration. Eighteen zones (18) cover the OPC Atlantic offshore waters.





**Figure 4.** Planned OPC Pacific offshore waters zone configuration. Nineteen zones (19) cover the OPC Pacific offshore waters.

## 2. The development of gridded marine forecasts and smaller marine zones

On May 1, 2013 OPC started using the Graphical Forecast Editor (GFE) to help produce offshore marine forecasts based on a gridded database. The gridded database is produced using the Advanced Weather Interactive Processing System's (AWIPS II) GFE. The gridded database consists of numerical weather prediction (NWP) model fields from one or several forecast models that are massaged by the forecasters, taking into account forecaster expertise. The forecasters can blend models or select from a single preferred model to populate the fields. They can also edit the grid directly based on their experience with model performance. The forecaster edits the gridded fields to provide a value added gridded marine database on a 5 km horizontal resolution. Winds, wind gusts, hazards and significant wave height grids are produced at a 3 hour time step through the 5 day period of the forecast. The utility of the gridded marine database lies in the capability to derive products from this database through the use of text formatters, including redesigned NAVTEX and high-frequency (HF) voice-broadcasts (VOBRA). Additional details on these products will be addressed in the [Dissemination and Operational Backup](#) section. The gridded data is also composited from multiple offices and hosted on a website at <http://preview.weather.gov/graphical/> with the gridded data becoming an increasingly important product since it gives a detailed forecast that goes beyond what can be contained in a text product.

The text formatters in AWIPS GFE allow for the creation of much smaller zones which provide detailed forecasts for each zone, thus eliminating excessive wording necessary to describe conditions in larger zones.

## 3. Current Zone numbers for the Offshore Waters Zones

**Figure 1 and Figure 2** depict the current offshore waters zone configuration for OPC for the Atlantic (OFFNT1, OFFNT2) and the Pacific (OFFPZ5, OFFPZ6) offshore waters area of responsibility. The current Universal Geographical Code (UGC) zone numbers and geographical descriptions for the OPC offshore waters are listed below.

### Atlantic Ocean- NT1 waters

ANZ080 - Synopsis for New England Waters.

ANZ081 - Gulf of Maine to the Hague Line. ANZ081



ANZ082 - Georges Bank from the Northeast Channel to the Great South Channel including the waters east of Cape Cod to the Hague Line.

ANZ083 - South of New England from the Great South Channel to Hudson Canyon including the waters south of Martha's Vineyard and Nantucket Island out to 1000FM.

#### **Atlantic Ocean- NT2 waters**

ANZ089 - Synopsis for Mid Atlantic Waters.

ANZ084 - Hudson to Baltimore Canyon.

ANZ085 - Baltimore Canyon to Hatteras Canyon out to 36N 70W to 34N 71W.

ANZ086 - Hatteras Canyon to Cape Fear out to 34N 71W to 32N 73W.

ANZ088 - Cape Fear to 31N out to 32N 73W to 31N 74W.

ANZ094 - Baltimore Canyon to the Hague Line South of 1000 FM.

#### **Pacific Ocean- PZ5 waters**

PZZ080 - Synopsis for Washington and Oregon Waters.

PZZ081 - Cape Flattery to Cape Lookout.

PZZ082 - Cape Lookout to Point St. George

#### **Pacific Ocean- PZ6 waters**

PZZ089 - Synopsis for California Waters Offshore.

PZZ083 - Point St. George to Point Arena.

PZZ084 - Point Arena to Point Conception.

PZZ085 - Point Conception to Guadalupe Island.

### **4. Rationale for the new offshore waters zone configuration**

The text formatter in GFE works best with smaller zones which are based on local climate regimes that are more or less homogenous. The new zone configurations were designed with this in mind. A key consideration for the layout of the new zones is the climatology of 10 m Quikscat winds. Local climatology and bathymetry were other factors considered as well. An "inner" marine zone was added wherever practical in order to help local WFOs maintain an effective NOAA Weather Radio program as well as to provide more specific information to mariners near the coast. The position of the Gulf Stream was taken into account for the Atlantic zones. The zone configurations were adjusted where possible to coincide with existing marine boundaries from coastal weather forecast offices (WFO). Input from coastal offices was taken into account to define the boundaries. Customer feedback for the changes has been positive since users have expressed the concern that the offshore forecasts cover such a large area that they often times are not specific enough for their needs.

The zone names reflect well-known geographical entities covered in the zone area whenever possible (e.g. "Gulf of Maine"). In the absence of a convenient geographical reference, the zone name includes a well-known bathymetric feature whenever possible (e.g. "1000 fathoms [FM]"). In some instances, boundaries were described by latitude and/or longitude description.

Finally, all of the new zone numbers have new Universal Geographical Codes (UGC) which do not re-use any of the current zone numbers.

### **5. Planned new Zone numbers for the Offshore Waters Zones**

**Figure 3** and **Figure 4** depict the new offshore waters zone configuration for OPC's Atlantic (OFFNT1, OFFNT2) and Pacific (OFFPZ5, OFFPZ6) offshore waters area of responsibility. The planned Universal Geographical Code (UGC) zone numbers and geographical descriptions for the OPC offshore waters are listed below.

#### **OPC Atlantic Offshore Waters**

ANZ898 - Synopsis for New England Waters.

ANZ899 - Synopsis for Mid Atlantic Waters.

ANZ800 - Gulf of Maine to the Hague Line.

ANZ805 - Georges Bank between Cape Cod and 68W north of 1000 FM.

ANZ810 - South of New England between the Great South Channel and Montauk Point to 1000 FM.

ANZ815 - South of Long Island between Montauk Point and Sandy Hook to 1000 FM.

ANZ820 - Hudson Canyon to Baltimore Canyon to 1000 FM.

ANZ825 - Baltimore Canyon to Cape Charles Light to 100 NM offshore.

ANZ828 - Cape Charles Light to Currituck Beach Light to 100 NM offshore.

ANZ830 - Currituck Beach Light to Cape Hatteras to 100 NM offshore.

ANZ833 - Cape Hatteras to Cape Fear to 100 NM offshore.

ANZ835 - Cape Fear to 31N to 1000 FM.

ANZ900 - Georges Bank between 68W and the Hague Line.  
ANZ905 - East of 69W to the Hague Line between 1000 FM and 39N.  
ANZ910 - East of 69W and south of 39N to 250 NM offshore.  
ANZ915 - Between 1000 FM and 39N west of 69W.  
ANZ920 - Baltimore Canyon to 69W east of 1000 FM and south of 38.5N to 250 NM offshore.  
ANZ925 - Baltimore Canyon to Hatteras Canyon between 100 NM and 250 NM offshore.  
ANZ930 - Hatteras Canyon to Cape Fear between 100 NM and 250 NM offshore.  
ANZ935 - Cape Fear to 31N east of 1000 FM to 250 NM offshore.

#### **OPC Pacific Offshore Waters**

PZZ898 - Synopsis for Washington and Oregon waters.  
PZZ899 - Synopsis for California waters.  
PZZ800 - Cape Flattery to Cape Shoalwater between 60 NM and 150 NM offshore.  
PZZ805 - Cape Shoalwater to Cape Lookout between 60 NM and 150 NM offshore.  
PZZ810 - Cape Lookout to Florence, OR between 60 NM and 150 NM offshore.  
PZZ815 - Florence, OR to Point St. George between 60 NM and 150 NM offshore.  
PZZ820 - Point St. George to Point Arena between 60 NM and 150 NM offshore.  
PZZ825 - Point Arena to Pigeon Point between 60 NM and 150 NM offshore.  
PZZ830 - Pigeon Point to Point Piedras Blancas between 60 NM and 150 NM offshore.  
PZZ835 - Point Piedras Blancas to Santa Cruz Island, CA between 60 NM and 150 NM offshore.  
PZZ840 - Santa Cruz Island, CA to San Clemente Island, CA between 60 NM and 150 NM offshore.  
PZZ900 - Cape Flattery to Cape Shoalwater between 150 NM and 250 NM offshore.  
PZZ905 - Cape Shoalwater to Cape Lookout between 150 NM and 250 NM offshore.  
PZZ910 - Cape Lookout to Florence, OR between 150 NM and 250 NM offshore.  
PZZ915 - Florence, OR to Point St. George between 150 NM and 250 NM offshore.  
PZZ920 - Point St. George to Point Arena between 150 NM and 250 NM offshore.  
PZZ925 - Point Arena to Pigeon Point between 150 NM and 250 NM offshore.  
PZZ930 - Pigeon Point to Point Piedras Blancas between 150 NM and 250 NM offshore.  
PZZ935 - Point Piedras Blancas to Santa Cruz Island, CA between 150 NM and 250 NM offshore.  
PZZ940 - Santa Cruz Island, CA to 120W between 150 NM and 250 NM offshore.  
PZZ945 - 120W to San Clemente Island, CA between 150 NM and 250 NM offshore.

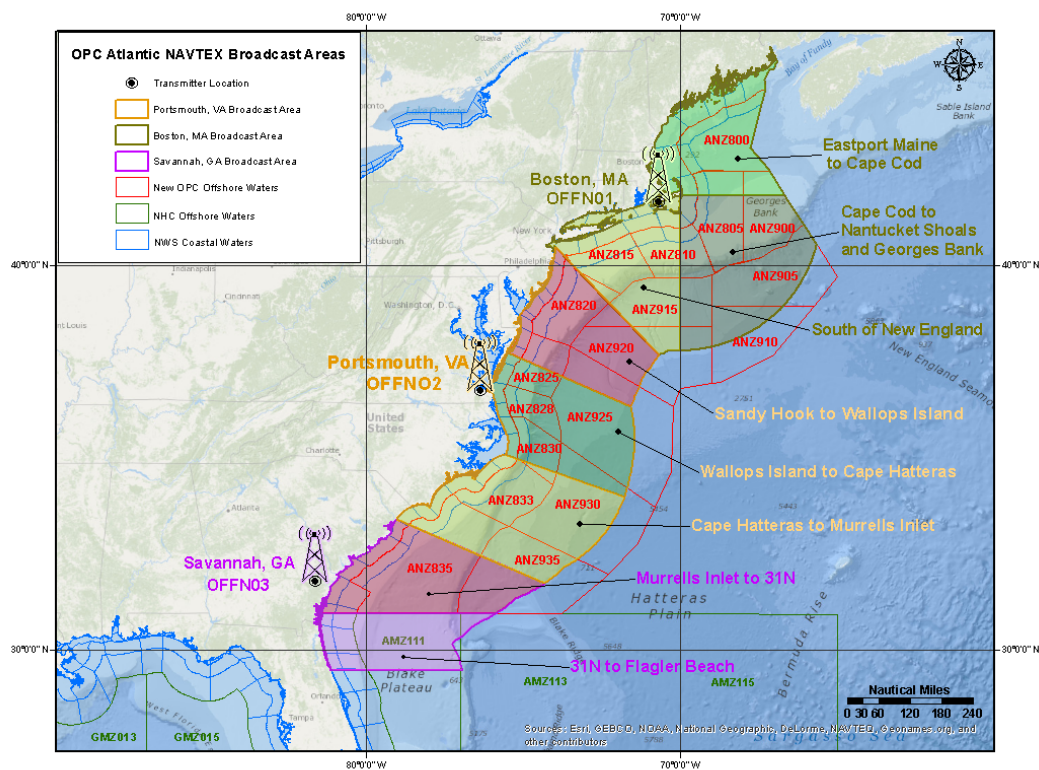
Appendices A and B provide samples of the offshore forecasts for the Atlantic and Pacific with the new zone configuration.

## **6. Dissemination and operational backup**

### **NAVTEX**

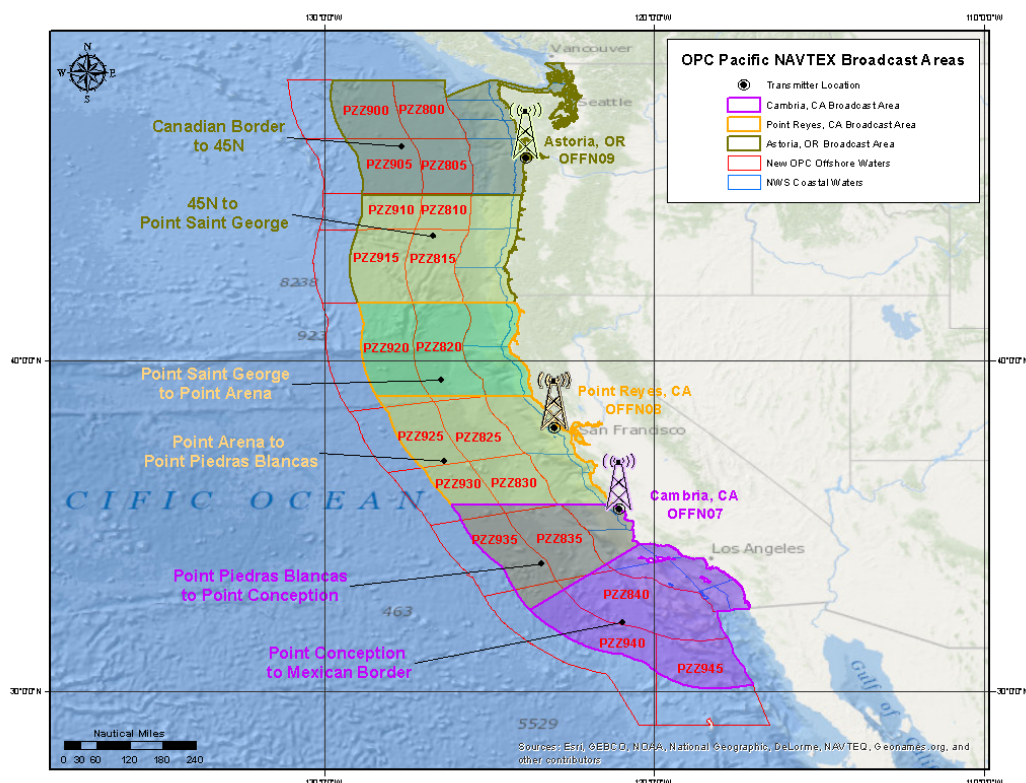
The GFE text formatters produce a NAVTEX product which derives the pertinent marine information from the gridded forecast database. The GFE NAVTEX text products are similar to the current NAVTEX products, but both versions sometimes exceed the 89 line limit set forth in the NWS marine directives. The NAVTEX products produced by the GFE text formatters are an improvement over the existing NAVTEX products since GFE incorporates coastal marine warnings and describes marine weather conditions within the mandated 250 nm area of the transmitter site. These features were the original requirements of the NAVTEX products, but the current NAVTEX format does not adhere to them.

In order to optimize the GFE text formatter software, slight changes to the NAVEX coverage areas are needed. [Figure 5](#) and [Figure 6](#) are a depiction of the planned shape file that GFE will use to generate NAVTEX forecasts within OPC's offshore areas of responsibility. Appendix C provides a sample of a NAVTEX product for OFFN01.



**Figure 5.** Planned shape files for the Atlantic NAVTEX coverage area for the GFE text formatters. The three NAVTEX transmitters in OPC's Atlantic Area of Responsibility (AOR) are Boston MA, Portsmouth VA, and Savannah GA. They broadcast the OFFN01, OFFN02, and OFFN03 NAVTEX products.





**Figure 6.** Planned shape files for the Pacific NAVTEX coverage area for the GFE text formatters. The three NAVTEX transmitters in OPC's Pacific AOR are Astoria OR, Point Reyes CA and Cambria CA. They broadcast the OFFN09, OFFN08 and OFFN07 NAVTEX products.

#### NAVTEX GFE formatter coverage areas

Figures 5 and 6 show the NAVTEX formatter coverage areas for the Atlantic and Pacific. The shading in the figures indicate subdivisions within the transmitter area for separate forecasts and forecast area descriptions.

Current Atlantic NAVTEX Forecast area descriptions are the following:

N01:

Eastport Maine to Cape Cod...east to the Hague Line  
Cape Cod to Nantucket Shoals and Georges Bank...east to the Hague Line  
South of New England...out to 1000 FM

N02:

Sandy Hook to Fenwick Island...out to 250 NM  
Fenwick Island to Cape Hatteras...out to 250 NM  
Cape Hatteras to Murrells Inlet...out to 250 NM

N03:

Murrells Inlet to 31N...out 250 NM  
South of 31N...out to 65W

New Atlantic NAVTEX Forecast area descriptions are the following:

N01:

Eastport Maine to Cape Cod...east to the Hague Line  
Cape Cod to Nantucket Shoals and Georges Bank east of 70W...to the Hague Line...out to 200 NM  
South of New England...to 70W...out to 200 NM

N02:

Sandy Hook to Wallops Island...out to 200 NM

Wallops Island to Cape Hatteras...out to 200 NM  
Cape Hatteras to Murrells Inlet...out to 200 NM

N03:  
Murrells Inlet to 31N...out 200 NM  
31N to Flagler Beach...out to 200 NM

Current Pacific NAVTEX Forecast area descriptions are the following:

N09:  
Canadian Border to Cape Lookout  
Cape Lookout to Point Saint George

N08:  
Point Saint George Point Arena  
Point Arena to Point Piedras Blancas...out to 250 NM

N07:  
Point Piedras Blancas to Point Conception  
Point Conception to the Mexico Border

New Pacific NAVTEX Forecast area descriptions are the following:

N09:  
Canadian Border to 45N...out to 200 NM  
45N to Point Saint George...out to 200 NM

N08:  
Point Saint George to Point Arena...out to 200 NM  
Point Arena to Point Piedras Blancas...out to 200 NM

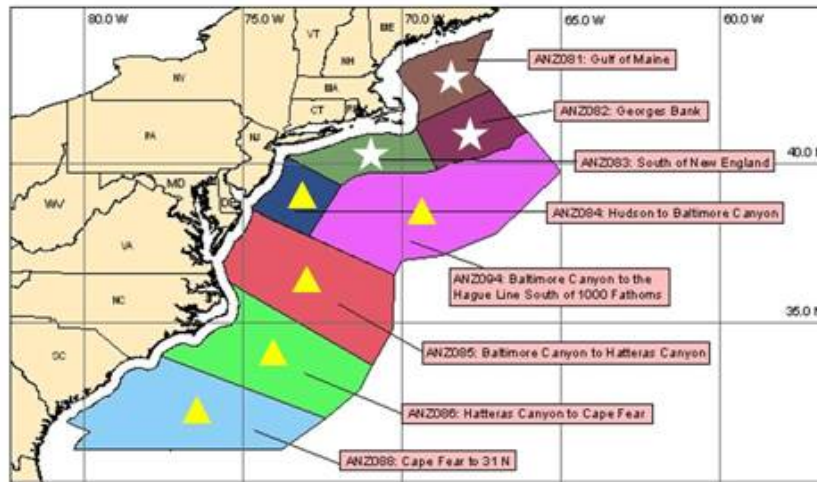
N07:  
Point Piedras Blancas to Point Conception...out to 200 NM  
Point Conception to the Mexican Border...out to 200 NM

#### **High-frequency (HF) voice broadcasts for the USCGS (VOBRA)**

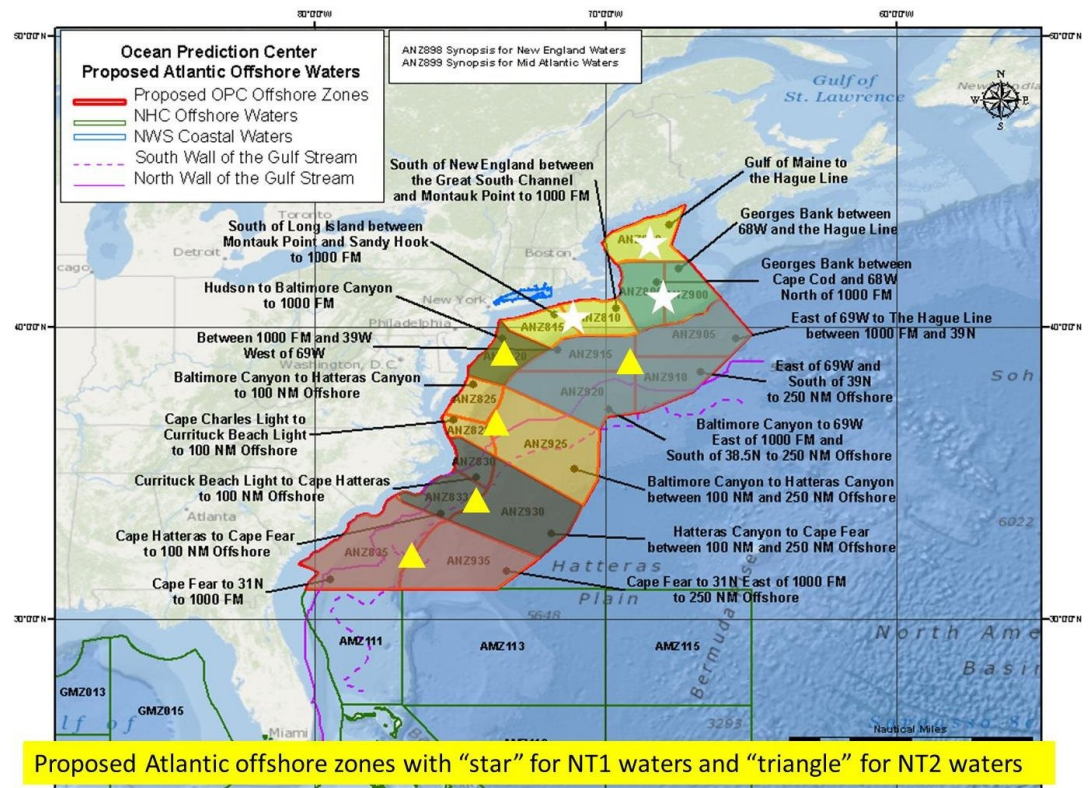
The United States Coast Guard (USCG) provides a high frequency voice broadcast (VOBRA) of the OPC offshore waters forecasts.

For the Atlantic, the broadcast is transmitted simultaneously from Chesapeake, VA (NMN) and New Orleans, LA (NMG), and consists of HF transmissions at 6, 8, and 12 MHz. The current USCG schedule allows 90 minutes for the broadcast of all offshore forecasts, in addition to all active TCMAT1-5 products, and the TWOAT. These are read by a voice synthesizer ("Iron Mike") at 0330Z, 0930Z, 1530Z, and 2130Z. The current USCG Voice Broadcast (VOBRA) repeats the OFFNT1 and OFFNT2 verbatim.

The planned solution for the VOBRA is the same approach used by the National Hurricane Center's [Tropical Analysis and Forecast Branch \(TAFB\)](#) when they converted to new zones in April 2012. This approach is to combine the new offshore marine zones in a manner similar to the current zone configuration. [Figure 8](#) and [Figure 9](#) show the current and new VOBRA zone groupings. This solution would limit the broadcast cycle to the current time since it would preserve the same number of zone combinations and also retain the spatial coverage of the full OFFNT1 and OFFNT2 domains. In addition, this solution would still provide temporal coverage out to five days. [Appendices D and E](#) provide samples of the offshore waters forecasts produced by combining the new offshore waters zones to replicate the current offshore waters zone configuration to prepare a script for VOBRA purposes.



Current Atlantic offshore zones with "star" for NT1 waters and "triangle" for NT2 waters

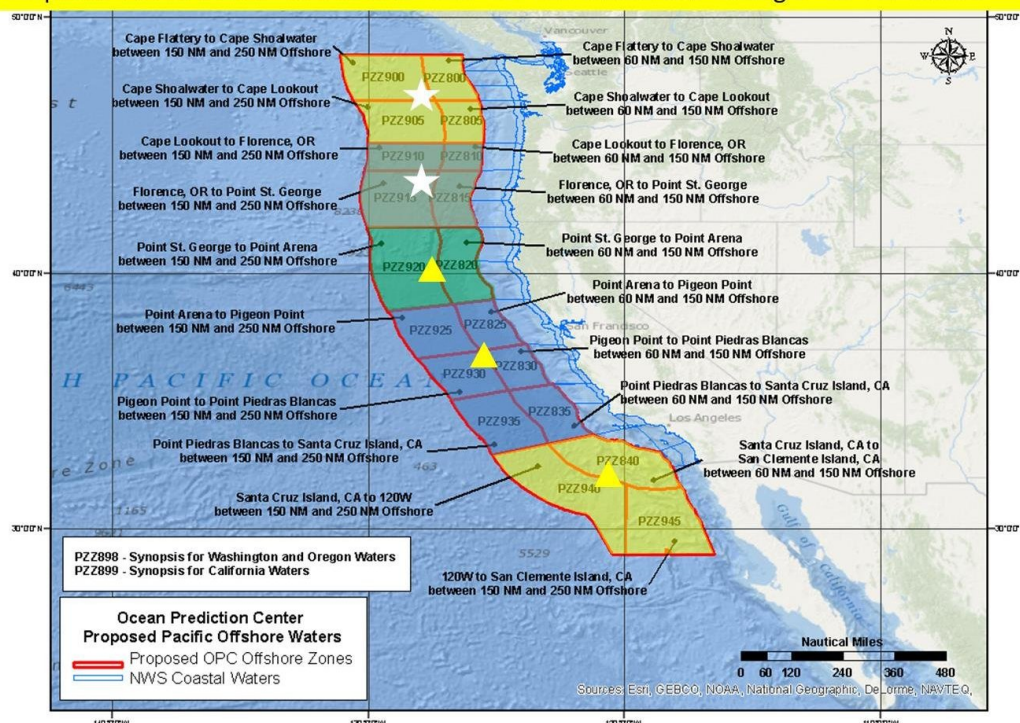


**Figure 8.** Top panel shows existing zone combination for Atlantic VOBRA broadcasts. Bottom panel shows planned zone combination for Atlantic VOBRA broadcasts. The "star" symbol is used to show areas in the NT1 waters and the "triangle" symbol represents the NT2 waters area.





Proposed Pacific offshore zones with "star" for PZ5 waters and "triangle" for PZ6 waters



**Figure 9.** Top panel shows existing zone combination for Pacific VOBRA broadcasts. Bottom panel shows new zone combination for Pacific VOBRA broadcasts. The "star" symbol is used to show areas in the PZ5 waters and the "triangle" symbol represents the PZ6 waters area.

For the Pacific, the broadcast is transmitted from the Point Reyes CA transmitter, and consists of HF transmissions at 6, 8, and 12 MHz. The current USCGS schedule allows 90 minutes for the broadcast of all offshore forecasts, in addition to the high seas forecasts for the east Pacific and the north central Pacific. The Tsunami Watch/Warning product as well as the Public Tsunami Message are also broadcast. These are read by a voice synthesizer ("Iron Mike") at 0430Z, 1030Z, 1630Z, and 2230Z. The current USCG Voice Broadcast (VOBRA) repeats the OFFPZ5 and OFFPZ6 verbatim.

The solutions described above will provide an improved service to the marine community.

### Operational Backup of OPC with the New Offshore Zones

OPC will produce a set of zones for both the Atlantic and Pacific that mirror the "old" zones for backup purposes. In order to facilitate text backup, the same number of zone combinations that are currently produced, eight in the Atlantic and five in the Pacific, will routinely be prepared with GFE. In the event that OPC had to request unscheduled service backup, the backup offices could manually edit the text for the five Pacific zones or eight Atlantic zones as they currently do for backup. They would always be able to start with the most current forecast produced by OPC in the old zone groupings. The logic behind this is that with the new zones there are too many to be able to manually edit the numbers of zones required (18 for the Atlantic and 19 for the Pacific). In the long term, OPC is pursuing gridded backup which would eliminate the need for producing legacy text forecasts routinely.

## 7. Graphical View of Sample Forecasts

New sample offshore waters forecasts that update every 6 hours are available at:  
[http://www.opc.ncep.noaa.gov/new\\_offshore/new\\_zones\\_map\\_mouseover.php](http://www.opc.ncep.noaa.gov/new_offshore/new_zones_map_mouseover.php)

New sample NAVTEX and VOBRA forecasts that also update every 6 hours are available at:  
[http://www.opc.ncep.noaa.gov/new\\_offshore/new\\_zones\\_navtex\\_vobra.php](http://www.opc.ncep.noaa.gov/new_offshore/new_zones_navtex_vobra.php)

## 8. Questions and Comments

If you have any questions or comments about this reconfiguration of OPC offshore waters marine zones please contact:

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You may also provide [comments and feedback at this page using the web form](#).

## Appendix A. Sample text output for new Offshore Waters Zones for the Atlantic (OFFNT1)

FZNT21 KWBC 252000  
OFFNT1

OFFSHORE WATERS FORECAST  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
400 PM EDT WED SEP 25 2013

NEW ENGLAND CONTINENTAL SHELF AND SLOPE WATERS FROM 25 NM  
OFFSHORE TO THE HAGUE LINE...EXCEPT TO 1000 FM S OF NEW ENGLAND

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE  
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE  
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

ANZ080-260730-  
400 PM EDT WED SEP 25 2013

.SYNOPSIS FOR NEW ENGLAND WATERS...A HIGH PRES RIDGE WILL SLOWLY BUILD IN FROM THE NW TONIGHT THROUGH FRI...MOVE E AND OFFSHORE SAT...THEN WEAKEN SUN. A DEVELOPING LOW PRES WILL APPROACH THE AREA FROM THE S LATER SUN AND PASS SE OF THE AREA MON. A WEAK COLD FRONT WILL MOVE SE FROM THE COAST LATER MON.

\$\$

ANZ800-260730-  
GULF OF MAINE TO THE HAGUE LINE-  
400 PM EDT WED SEP 25 2013

.TONIGHT...N TO NW WINDS 5 TO 15 KT...BECOMING N 10 TO 20 KT.  
SEAS 2 TO 4 FT.  
.THU...N WINDS 10 TO 20 KT. SEAS 3 TO 6 FT.  
.THU NIGHT...N WINDS 10 TO 20 KT. SEAS 3 TO 6 FT.  
.FRI...N TO NE WINDS 10 TO 20 KT...BECOMING N TO NW 5 TO 15 KT IN  
THE AFTERNOON. SEAS 3 TO 6 FT.  
.FRI NIGHT...N TO NW WINDS 5 TO 15 KT...BECOMING 5 TO 10 KT  
BEFORE MIDNIGHT. SEAS 3 TO 5 FT.  
.SAT...N TO NW WINDS LESS THAN 10 KT...BECOMING W TO SW LATE.  
SEAS 2 TO 3 FT.  
.SUN...S TO SW WINDS 5 TO 15 KT...INCREASING TO 10 TO 20 KT LATE.  
SEAS 2 TO 4 FT.  
.MON...S TO SW WINDS LESS THAN 10 KT...BECOMING N TO NW 10 TO  
20 KT LATE. SEAS 2 TO 3 FT...BUILDING TO 3 TO 5 FT LATE.

\$\$

ANZ805-260730-  
GEORGES BANK BETWEEN CAPE COD AND 68W NORTH OF 1000 FM-  
400 PM EDT WED SEP 25 2013

.TONIGHT...N WINDS 10 TO 15 KT. SEAS 3 TO 4 FT.  
.THU...N WINDS 10 TO 20 KT. SEAS 3 TO 5 FT.  
.THU NIGHT...N TO NE WINDS 10 TO 20 KT. SEAS 3 TO 6 FT.  
.FRI...N TO NE WINDS 10 TO 20 KT. SEAS 4 TO 6 FT.  
.FRI NIGHT...N TO NE WINDS 5 TO 15 KT. SEAS 3 TO 6 FT.  
.SAT...N TO NE WINDS 5 TO 15 KT...BECOMING E TO NE LATE. SEAS  
3 TO 5 FT.  
.SUN...E WINDS LESS THAN 10 KT...BECOMING S LATE. SEAS 2 TO 3 FT.  
.MON...N TO NE WINDS 10 TO 20 KT...BECOMING N TO NW LATE. SEAS  
4 TO 7 FT.

\$\$

ANZ900-260730-  
GEORGES BANK BETWEEN 68W AND THE HAGUE LINE-  
400 PM EDT WED SEP 25 2013

.TONIGHT...N WINDS 10 TO 20 KT. SEAS 4 TO 5 FT.  
.THU...N WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.  
.THU NIGHT...N WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.  
.FRI...N TO NE WINDS 15 TO 20 KT. SEAS 4 TO 7 FT.  
.FRI NIGHT...N TO NE WINDS 5 TO 15 KT. SEAS 3 TO 6 FT.  
.SAT...N TO NE WINDS 5 TO 15 KT...BECOMING E TO NE LATE. SEAS  
3 TO 5 FT.



.SUN...E TO SE WINDS LESS THAN 10 KT. SEAS 2 TO 3 FT.  
.MON...E TO NE WINDS 15 TO 25 KT...BECOMING N TO NW LATE. SEAS  
4 TO 8 FT.

\$\$

ANZ810-260730-  
SOUTH OF NEW ENGLAND BETWEEN THE GREAT SOUTH CHANNEL AND MONTAUK  
POINT TO 1000 FM-  
400 PM EDT WED SEP 25 2013

.TONIGHT...N TO NE WINDS 5 TO 15 KT. SEAS 2 TO 4 FT.  
.THU...N TO NE WINDS 5 TO 15 KT. SEAS 2 TO 4 FT.  
.THU NIGHT...N TO NE WINDS 5 TO 15 KT...INCREASING TO 15 TO  
20 KT AFTER MIDNIGHT. SEAS 3 TO 6 FT.  
.FRI...NE WINDS 10 TO 20 KT. SEAS 3 TO 6 FT.  
.FRI NIGHT...NE WINDS 5 TO 15 KT. SEAS 3 TO 6 FT.  
.SAT...E TO NE WINDS 5 TO 15 KT...DIMINISHING TO LESS THAN 10 KT  
LATE. SEAS 3 TO 5 FT.  
.SUN...E TO NE WINDS LESS THAN 10 KT...INCREASING TO 5 TO 15 KT  
LATE. SEAS 2 TO 3 FT.  
.MON...N TO NW WINDS 10 TO 20 KT...BECOMING W TO NW LATE. SEAS  
4 TO 7 FT.

\$\$

ANZ815-260730-  
SOUTH OF LONG ISLAND BETWEEN MONTAUK POINT AND SANDY HOOK TO  
1000 FM-  
400 PM EDT WED SEP 25 2013

.TONIGHT...N TO NW WINDS LESS THAN 10 KT...BECOMING E IN THE  
EVENING...THEN...BECOMING E TO NE AFTER MIDNIGHT. SEAS 2 TO 3 FT.  
.THU...E TO NE WINDS 5 TO 15 KT. SEAS 2 TO 4 FT.  
.THU NIGHT...N TO NE WINDS 5 TO 15 KT. SEAS 2 TO 4 FT.  
.FRI...NE WINDS 10 TO 20 KT. SEAS 3 TO 5 FT.  
.FRI NIGHT...E TO NE WINDS 5 TO 15 KT. SEAS 3 TO 5 FT.  
.SAT...E TO NE WINDS 5 TO 15 KT...BECOMING E TO SE LATE. SEAS  
2 TO 4 FT.  
.SUN...E TO NE WINDS LESS THAN 10 KT...BECOMING S LATE. SEAS 2 TO  
3 FT.  
.MON...W TO NW WINDS 5 TO 15 KT...BECOMING N TO NW 10 TO 20 KT  
LATE. SEAS 3 TO 5 FT.

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.FORECASTER OPC. OCEAN PREDICTION CENTER.

Note: Link to current OFFNT1 is available at <http://www.opc.ncep.noaa.gov/shtml/NFDOFFNT1.shtml>

## **Appendix B. Sample text output for new Offshore Waters Zones for the Pacific (OFFPZ5)**

FZPN25 KWBC 251630  
OFFPZ5

OFFSHORE WATERS FORECAST  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
930 AM PDT WED SEP 25 2013

WASHINGTON AND OREGON WATERS-  
INNER WATERS FROM 60 NM TO 150 NM OFFSHORE.  
OUTER WATERS FROM 150 NM TO 250 NM OFFSHORE.

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE  
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE  
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

PZZ080-260400-  
930 AM PDT WED SEP 25 2013

.SYNOPSIS FOR WASHINGTON AND OREGON WATERS...A LOW PRES TROUGH  
ALONG THE COAST OF BRITISH COLUMBIA WILL WEAKEN TODAY AND  
TONIGHT. A WEAK COLD FRONT WILL MOVE SE INTO THE WASHINGTON  
WATERS THU NIGHT INTO FRI...THEN WEAKEN LATE FRI. A STRONGER COLD  
FRONT WILL MOVE E OVER THE WATERS LATER SAT INTO SUN. DEEP LOW  
PRES WILL PASS NW OF THE AREA SUN. A THIRD COLD FRONT WILL MOVE E  
TO THE NW WATERS LATE SUN.

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PZZ800-260400-  
CAPE FLATTERY TO CAPE SHOALWATER BETWEEN 60 NM AND 150 NM  
OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 10 TO 20 KT. SEAS 8 TO 10 FT. ISOLATED SHOWERS.  
.TONIGHT...N TO NW WINDS 10 TO 20 KT. SEAS 7 TO 9 FT.  
.THU...N TO NW WINDS 10 TO 20 KT...DIMINISHING TO 5 TO 15 KT IN  
THE AFTERNOON. SEAS 5 TO 8 FT.  
.THU NIGHT...W TO NW WINDS 5 TO 10 KT...BECOMING S TO SW 5 TO  
15 KT AFTER MIDNIGHT. SEAS 4 TO 6 FT. CHANCE OF RAIN.  
.FRI...W TO SW WINDS 10 TO 20 KT...BECOMING S TO SW 20 TO 30 KT  
LATE. SEAS 6 TO 10 FT.  
.SAT...S WINDS 25 TO 35 KT. SEAS 10 TO 16 FT.  
.SUN...S TO SW WINDS 25 TO 35 KT. SEAS 17 TO 23 FT.

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PZZ900-260400-  
CAPE FLATTERY TO CAPE SHOALWATER BETWEEN 150 NM AND 250 NM  
OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 15 TO 20 KT. SEAS 8 TO 11 FT. ISOLATED SHOWERS.  
.TONIGHT...N TO NW WINDS 15 TO 20 KT. SEAS 6 TO 9 FT.  
.THU...N TO NW WINDS 10 TO 20 KT...BECOMING W TO NW 10 TO 15 KT  
IN THE AFTERNOON. SEAS 4 TO 8 FT.  
.THU NIGHT...W TO SW WINDS 5 TO 15 KT. SEAS 4 TO 6 FT. CHANCE OF  
RAIN.  
.FRI...W TO NW WINDS 10 TO 20 KT...BECOMING S TO SW 20 TO 30 KT  
LATE. SEAS 7 TO 11 FT.  
.SAT...S TO SW WINDS 25 TO 35 KT. SEAS 11 TO 19 FT.  
.SUN...S TO SW WINDS 25 TO 35 KT. SEAS 18 TO 25 FT.

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PZZ805-260400-

CAPE SHOALWATER TO CAPE LOOKOUT BETWEEN 60 NM AND 150 NM OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 10 TO 20 KT. SEAS 9 TO 11 FT. ISOLATED SHOWERS.  
.TONIGHT...N TO NW WINDS 15 TO 20 KT. SEAS 8 TO 10 FT.  
.THU...N TO NW WINDS 10 TO 20 KT...BECOMING 10 TO 15 KT IN THE  
AFTERNOON. SEAS 6 TO 8 FT.  
.THU NIGHT...N TO NW WINDS 5 TO 15 KT...BECOMING W TO NW AFTER  
MIDNIGHT. SEAS 4 TO 6 FT.  
.FRI...S TO SW WINDS 10 TO 20 KT...INCREASING TO 20 TO 30 KT  
LATE. SEAS 6 TO 10 FT.  
.SAT...S WINDS 25 TO 35 KT. SEAS 9 TO 16 FT.  
.SUN...S TO SW WINDS 15 TO 25 KT...INCREASING TO 25 TO 35 KT  
LATE. SEAS 16 TO 23 FT.

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PZZ905-260400-

CAPE SHOALWATER TO CAPE LOOKOUT BETWEEN 150 NM AND 250 NM  
OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 15 TO 20 KT. SEAS 9 TO 11 FT. ISOLATED SHOWERS.  
.TONIGHT...N WINDS 15 TO 20 KT. SEAS 7 TO 10 FT.  
.THU...N TO NW WINDS 10 TO 20 KT...BECOMING 10 TO 15 KT IN THE  
AFTERNOON. SEAS 5 TO 8 FT.  
.THU NIGHT...W TO NW WINDS 5 TO 15 KT...BECOMING W TO SW AFTER  
MIDNIGHT. SEAS 4 TO 6 FT. CHANCE OF RAIN.  
.FRI...W TO SW WINDS 10 TO 20 KT...BECOMING S TO SW 20 TO 30 KT  
LATE. SEAS 7 TO 11 FT.  
.SAT...S TO SW WINDS 25 TO 35 KT. SEAS 10 TO 14 FT...BUILDING TO  
14 TO 19 FT LATE.  
.SUN...S TO SW WINDS 25 TO 35 KT. SEAS 17 TO 25 FT.

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PZZ810-260400-

CAPE LOOKOUT TO FLORENCE, OR BETWEEN 60 NM AND 150 NM OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 15 TO 20 KT. SEAS 10 TO 11 FT. ISOLATED SHOWERS.  
.TONIGHT...N WINDS 15 TO 20 KT. SEAS 8 TO 10 FT.  
.THU...N WINDS 10 TO 15 KT. SEAS 6 TO 8 FT.  
.THU NIGHT...N WINDS 10 TO 15 KT...BECOMING N TO NW 5 TO 10 KT  
AFTER MIDNIGHT. SEAS 5 TO 6 FT.  
.FRI...W TO SW WINDS 5 TO 15 KT...BECOMING S TO SW 10 TO 20 KT  
LATE. SEAS 4 TO 5 FT...BUILDING TO 4 TO 8 FT LATE.  
.SAT...S WINDS 25 TO 35 KT. SEAS 9 TO 15 FT.  
.SUN...S TO SW WINDS 15 TO 25 KT...INCREASING TO 25 TO 35 KT  
LATE. SEAS 15 TO 20 FT.

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PZZ910-260400-  
CAPE LOOKOUT TO FLORENCE, OR BETWEEN 150 NM AND 250 NM OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 15 TO 20 KT. SEAS 10 TO 12 FT. ISOLATED SHOWERS.  
.TONIGHT...N WINDS 15 TO 20 KT. SEAS 7 TO 10 FT.  
.THU...N TO NW WINDS 10 TO 15 KT. SEAS 6 TO 8 FT.  
.THU NIGHT...N TO NW WINDS 10 TO 15 KT...BECOMING W TO NW 5 TO  
15 KT AFTER MIDNIGHT. SEAS 4 TO 6 FT.  
.FRI...W TO SW WINDS 10 TO 20 KT...BECOMING S TO SW 15 TO 25 KT  
LATE. SEAS 7 TO 11 FT.  
.SAT...S TO SW WINDS 25 TO 35 KT. SEAS 10 TO 17 FT.  
.SUN...S TO SW WINDS 25 TO 35 KT. SEAS 16 TO 23 FT.

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PZZ815-260400-  
FLORENCE, OR TO POINT ST. GEORGE BETWEEN 60 NM AND 150 NM  
OFFSHORE-  
930 AM PDT WED SEP 25 2013

.TODAY...N TO NW WINDS 15 TO 20 KT. SEAS 10 TO 12 FT. ISOLATED  
SHOWERS.  
.TONIGHT...N WINDS 15 TO 20 KT. SEAS 8 TO 11 FT. ISOLATED  
SHOWERS.  
.THU...N WINDS 10 TO 20 KT. SEAS 6 TO 9 FT.  
.THU NIGHT...N WINDS 10 TO 20 KT. SEAS 5 TO 8 FT.  
.FRI...N TO NW WINDS 5 TO 15 KT...BECOMING W TO SW LATE. SEAS  
4 TO 7 FT.  
.SAT...S TO SW WINDS 20 TO 30 KT. SEAS 8 TO 14 FT.  
.SUN...S TO SW WINDS 20 TO 30 KT. SEAS 12 TO 18 FT.

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PZZ915-260400-  
FLORENCE, OR TO POINT ST. GEORGE BETWEEN 150 NM AND 250 NM  
OFFSHORE-  
930 AM PDT WED SEP 25 2013

...GALE FORCE WINDS EXPECTED SAT...

.TODAY...N WINDS 15 TO 20 KT. SEAS 10 TO 12 FT. ISOLATED SHOWERS.  
.TONIGHT...N WINDS 15 TO 20 KT. SEAS 8 TO 11 FT.  
.THU...N WINDS 15 TO 20 KT. SEAS 6 TO 9 FT.  
.THU NIGHT...N TO NW WINDS 10 TO 20 KT...DIMINISHING TO 5 TO  
15 KT AFTER MIDNIGHT. SEAS 5 TO 7 FT.  
.FRI...W TO NW WINDS 10 TO 20 KT...BECOMING W TO SW 15 TO 25 KT  
LATE. SEAS 6 TO 10 FT.  
.SAT...S TO SW WINDS 25 TO 35 KT...BECOMING W TO SW LATE. SEAS  
10 TO 17 FT.  
.SUN...S TO SW WINDS 20 TO 30 KT. SEAS 14 TO 21 FT.

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.FORECASTER OPC. OCEAN PREDICTION CENTER.

Note: Link to current OFFPZ5 is available at <http://www.opc.ncep.noaa.gov/shtml/NFDOFFPZ5.shtml>

**Appendix C. Sample text output of the NAVTEX product for the Boston transmitter (OFFN01)**

000  
FZNT23 KWNM 120932  
OFFN01

NAVTEX MARINE FORECAST FOR NE US WATERS  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
531 AM EDT MON AUG 12 2013

...PLEASE REFER TO COASTAL WATERS FORECASTS (CWF) AVAILABLE  
THROUGH NOAA WEATHER RADIO AND OTHER MEANS FOR DETAILED  
COASTAL WATERS FORECASTS...

.SYNOPSIS...A STATIONARY FRONT SE OF THE WATERS NEAR CAPE  
HATTERAS WILL DRIFT N AND WEAKEN TODAY INTO TUE AS WEAK LOW PRES  
MOVES E ALONG THE FRONT. AN AREA OF HIGH PRES JUST W OF THE  
REGION WILL MOVE E THROUGH THE WATERS EARLY TODAY. ANOTHER COLD  
FRONT WILL MOVE SE OVER THE REGION TUE NIGHT...THEN PASS S OF  
THE WATERS WED BEFORE STALLING OFF THE MID ATLANTIC COAST THU. A  
LOW WILL DEVELOP ALONG THE FRONT FRI AND LIFT IT N AS A WARM  
FRONT. ANOTHER AREA OF HIGH PRES WILL BUILD E FROM THE GREAT  
LAKES WED...PASS THROUGH THE WATERS THU...THEN MOVE E OF THE  
AREA FRI.

EASTPORT MAINE TO CAPE COD...EAST TO THE HAGUE LINE

.TODAY...W TO SW WINDS 5 TO 10 KT...BECOMING S TO SW 5 TO 15 KT  
IN THE AFTERNOON. SEAS 2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.  
.TUE...S TO SW WINDS 10 TO 20 KT...BECOMING W TO SW IN THE  
AFTERNOON. SEAS 2 TO 4 FT. CHANCE OF TSTMS AND AREAS OF FOG WITH  
VSBY 1 NM OR LESS.  
.TUE NIGHT...W TO SW WINDS 10 TO 20 KT...BECOMING 10 TO 15 KT  
AFTER MIDNIGHT. SEAS 3 TO 5 FT.  
.WED...W TO NW WINDS 5 TO 15 KT. SEAS 2 TO 4 FT.  
.THU...W TO SW WINDS 10 TO 20 KT. SEAS 2 TO 4 FT.  
.FRI...S TO SW WINDS 5 TO 15 KT. SEAS 2 TO 3 FT.

CAPE COD TO NANTUCKET SHOALS AND GEORGES BANK EAST OF 70W...TO  
THE HAGUE LINE...OUT TO 200 NM

.TODAY...W TO SW WINDS LESS THAN 10 KT...BECOMING S TO SW IN THE  
AFTERNOON. SEAS 2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 3 TO 4 FT.  
.TUE...S TO SW WINDS 10 TO 20 KT...BECOMING W TO SW IN THE  
AFTERNOON. SEAS 3 TO 5 FT. CHANCE OF TSTMS AND AREAS OF FOG WITH  
VSBY 1 NM OR LESS.  
.TUE NIGHT...W TO SW WINDS 5 TO 15 KT. SEAS 3 TO 5 FT. AREAS OF  
FOG WITH VSBY 1 NM OR LESS IN THE EVENING. CHANCE OF TSTMS.  
.WED...N TO NW WINDS 5 TO 15 KT. SEAS 3 TO 5 FT.  
.THU...W TO SW WINDS LESS THAN 10 KT. SEAS 2 TO 4 FT.  
.FRI...E TO SE WINDS 10 TO 20 KT. SEAS 3 TO 5 FT.

SOUTH OF NEW ENGLAND...TO 70W...OUT TO 200 NM

.TODAY...W TO SW WINDS LESS THAN 10 KT...BECOMING S TO SW IN THE  
MORNING...THEN...INCREASING TO 5 TO 15 KT IN THE AFTERNOON. SEAS  
2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 5 TO 15 KT. SEAS 2 TO 3 FT.  
.TUE...W TO SW WINDS 5 TO 15 KT...BECOMING S IN THE AFTERNOON.  
SEAS 2 TO 4 FT. CHANCE OF TSTMS. RAIN IN THE AFTERNOON.  
.TUE NIGHT...S TO SW WINDS 5 TO 15 KT...BECOMING W TO NW AFTER  
MIDNIGHT. SEAS 2 TO 3 FT.  
.WED...N TO NW WINDS 5 TO 15 KT. SEAS 3 TO 5 FT.  
.THU...S TO SE WINDS LESS THAN 10 KT. SEAS 2 TO 4 FT.  
.FRI...E TO NE WINDS 10 TO 20 KT. SEAS 3 TO 5 FT.

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.FORECASTER OPC. OCEAN PREDICTION CENTER.

Note: Link to current OFFN01 is available at <http://www.opc.ncep.noaa.gov/shtml/NFDOFFN01.shtml>

#### Appendix D. Example output of Atlantic new VOBRA

FZNT33 KWBC 120800  
OFFN31

MARINE WEATHER HF VOICE BROADCAST  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
400 AM EDT MON AUG 12 2013

MARINE WEATHER HF VOICE BROADCAST FOR THE NEW ENGLAND  
CONTINENTAL SHELF AND SLOPE WATERS FROM 25 NM OFFSHORE TO THE  
HAGUE LINE...EXCEPT TO 1000 FM S OF NEW ENGLAND

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE  
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE  
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

SYNOPSIS FOR NEW ENGLAND WATERS

.SYNOPSIS...A STATIONARY FRONT SE OF THE WATERS NEAR CAPE  
HATTERAS WILL DRIFT N AND WEAKEN TODAY INTO TUE AS WEAK LOW  
PRES MOVES E ALONG THE FRONT. AN AREA OF HIGH PRES JUST W OF  
THE REGION WILL MOVE E THROUGH THE WATERS EARLY TODAY.  
ANOTHER COLD FRONT WILL MOVE SE OVER THE REGION TUE NIGHT...THEN  
PASS S OF THE WATERS WED BEFORE STALLING OFF THE MID ATLANTIC  
COAST THU. A LOW WILL DEVELOP ALONG THE FRONT FRI AND LIFT IT N  
AS A WARM FRONT. ANOTHER AREA OF HIGH PRES WILL BUILD E FROM THE  
GREAT LAKES WED...PASS THROUGH THE WATERS THU...THEN MOVE E OF  
THE AREA FRI.

GULF OF MAINE TO THE HAGUE LINE-

.TODAY...W WINDS 5 TO 10 KT...BECOMING S TO SW 5 TO 15 KT IN THE  
AFTERNOON. SEAS 2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.  
.TUE...S TO SW WINDS 10 TO 20 KT...BECOMING W TO SW IN THE  
AFTERNOON. SEAS 2 TO 4 FT. TSTMS AND AREAS OF FOG WITH VSBY 1 NM  
OR LESS.  
.TUE NIGHT...W TO SW WINDS 10 TO 20 KT...BECOMING W 10 TO 15 KT  
AFTER MIDNIGHT. SEAS 3 TO 5 FT.  
.WED...N TO NW WINDS 5 TO 15 KT...BECOMING W TO NW LATE. SEAS

2 TO 4 FT.  
.THU...W TO NW WINDS 5 TO 15 KT...BECOMING S TO SW 10 TO 20 KT  
LATE. SEAS 2 TO 4 FT.  
.FRI...W TO SW WINDS 5 TO 10 KT...BECOMING S TO SW 5 TO 15 KT  
LATE. SEAS 2 TO 3 FT.

GEORGES BANK...INCLUDING THE WATERS EAST OF CAPE COD AND WEST OF  
68W-GEORGES BANK...EAST OF 68W TO THE HAGUE LINE-

.TODAY...W TO SW WINDS LESS THAN 10 KT...BECOMING S TO SW IN THE  
AFTERNOON. SEAS 2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 3 TO 4 FT.  
.TUE...S TO SW WINDS 10 TO 20 KT...BECOMING W TO SW IN THE  
AFTERNOON. SEAS 3 TO 5 FT. TSTMS AND AREAS OF FOG WITH VSBY 1 NM  
OR LESS.  
.TUE NIGHT...W TO SW WINDS 10 TO 20 KT...DIMINISHING TO 5 TO  
15 KT AFTER MIDNIGHT. SEAS 3 TO 5 FT. TSTMS.  
.WED...W TO NW WINDS 5 TO 15 KT...BECOMING N TO NW LATE. SEAS  
3 TO 5 FT.  
.THU...W TO NW WINDS LESS THAN 10 KT...BECOMING W TO SW LATE.  
SEAS 2 TO 4 FT.  
.FRI...SW WINDS LESS THAN 10 KT...BECOMING E 10 TO 20 KT LATE.  
SEAS 2 TO 3 FT...BUILDING TO 3 TO 5 FT LATE.

SOUTH OF NEW ENGLAND...FROM THE GREAT SOUTH CHANNEL TO MONTAUK,  
NY INCLUDING THE WATERS SOUTH OF MARTHA'S VINEYARD AND NANTUCKET  
ISLAND...OUT TO 1000 FM-  
SOUTH OF LONG ISLAND...FROM MONTAUK, NY TO SANDY HOOK, NJ...OUT  
TO 1000 FM-

.TODAY...W TO SW WINDS LESS THAN 10 KT...BECOMING S TO SW IN THE  
MORNING...THEN...INCREASING TO 5 TO 15 KT IN THE AFTERNOON. SEAS  
2 TO 3 FT.  
.TONIGHT...S TO SW WINDS 5 TO 15 KT. SEAS 2 TO 3 FT.  
.TUE...W TO SW WINDS 5 TO 15 KT...BECOMING S IN THE AFTERNOON.  
SEAS 2 TO 4 FT. TSTMS AND RAIN.  
.TUE NIGHT...S TO SW WINDS 5 TO 15 KT...BECOMING W TO NW AFTER  
MIDNIGHT. SEAS 2 TO 3 FT.  
.WED...N TO NW WINDS 5 TO 15 KT. SEAS 3 TO 5 FT.  
.THU...NE WINDS LESS THAN 10 KT...BECOMING S TO SE LATE. SEAS  
2 TO 4 FT.  
.FRI...E TO NE WINDS LESS THAN 10 KT...INCREASING TO 10 TO 20 KT  
LATE. SEAS 2 TO 3 FT...BUILDING TO 3 TO 5 FT LATE.

Note: Link to current VOBRA for the Atlantic offshore waters (OFFNT1) is available at <http://weather.noaa.gov/pub/data/raw/fz/fznt21.kwbc.off.nt1.txt>

## Appendix E. Example output of Pacific new VOBRA

FZPN35 KWBC 120730  
OFFN35

MARINE WEATHER HF VOICE BROADCAST  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
330 AM PDT MON AUG 12 2013

MARINE WEATHER HF VOICE BROADCAST FOR THE CALIFORNIA WATERS-  
INNER WATERS FROM 60 NM TO 150 NM OFFSHORE.  
OUTER WATERS FROM 150 NM TO 250 NM OFFSHORE.

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

#### SYNOPSIS FOR WASHINGTON AND OREGON WATERS

.SYNOPSIS...HIGH PRES ACROSS THE WATERS WILL GRADUALLY WEAKEN TODAY INTO TONIGHT. LOW PRES AND A COLD FRONT WILL APPROACH THE REGION TUE AND TUE NIGHT. THE LOW WILL PASS JUST NW OF THE WATERS WED AND THU...AS THE COLD FRONT DRIFTS E ACROSS THE AREA AND DISSIPATES. A WEAKENING LOW WILL MOVE NE ACROSS THE NRN WATERS FRI.

INNER WATERS FROM CAPE FLATTERY TO CAPE SHOALWATER-  
INNER WATERS FROM CAPE SHOALWATER TO CAPE LOOKOUT-  
OUTER WATERS FROM CAPE FLATTERY TO CAPE SHOALWATER-  
OUTER WATERS FROM CAPE SHOALWATER TO CAPE LOOKOUT-

.TODAY...W TO NW WINDS LESS THAN 5 KT...BECOMING LESS THAN 10 KT IN THE MORNING...THEN...BECOMING S IN THE AFTERNOON. SEAS 3 TO 4 FT.  
.TONIGHT...S WINDS 5 TO 15 KT...BECOMING S TO SE 10 TO 20 KT AFTER MIDNIGHT. SEAS 3 TO 5 FT.  
.TUE...S TO SE WINDS 10 TO 20 KT. SEAS 4 TO 7 FT. CHANCE OF RAIN.  
.TUE NIGHT...S TO SE WINDS 10 TO 20 KT. SEAS 4 TO 7 FT. CHANCE OF RAIN. CHANCE OF TSTMS AFTER MIDNIGHT.  
.WED...S TO SW WINDS 10 TO 20 KT...DIMINISHING TO 5 TO 15 KT LATE. SEAS 3 TO 6 FT.  
.THU...S TO SE WINDS LESS THAN 10 KT...INCREASING TO 10 TO 20 KT LATE. SEAS 3 TO 5 FT.  
.FRI...S TO SW WINDS 5 TO 15 KT. SEAS 3 TO 6 FT.

INNER WATERS FROM CAPE LOOKOUT TO FLORENCE OR-  
INNER WATERS FROM FLORENCE OR TO POINT ST. GEORGE-  
OUTER WATERS FROM CAPE LOOKOUT TO FLORENCE OR-  
OUTER WATERS FROM FLORENCE OR TO POINT ST. GEORGE-

.TODAY...N TO NW WINDS 5 TO 15 KT...BECOMING S. SEAS 3 TO 4 FT.  
.TONIGHT...S WINDS 5 TO 15 KT. SEAS 3 TO 5 FT.  
.TUE...S WINDS 10 TO 20 KT. SEAS 3 TO 6 FT.  
.TUE NIGHT...S WINDS 10 TO 20 KT...BECOMING S TO SW 5 TO 15 KT AFTER MIDNIGHT. SEAS 3 TO 6 FT.  
.WED...S WINDS 5 TO 15 KT...BECOMING S TO SW LATE. SEAS 3 TO 5 FT.  
.THU...S TO SE WINDS LESS THAN 10 KT...BECOMING S TO SW LATE. SEAS 3 TO 5 FT.  
.FRI...S TO SW WINDS 5 TO 15 KT...BECOMING W TO SW LATE. SEAS 3 TO 6 FT.

Note: Link to current VOBRA for the Pacific offshore waters (OFFPZ5) is available at <http://weather.noaa.gov/pub/data/raw/fz/fzpn25.kwbc.off.pz5.txt>

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NOAA/ National Weather Service  
National Centers for Environmental Prediction  
NOAA Center for Weather and Climate Prediction (NCWCP)  
Ocean Prediction Center  
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NCWCP, W/NP41  
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